**Assignment 2 (70%) - Programming Concepts**

**Overview of assignment**

* This is your second assignment.
* You are asked to write a working animation.
* You will be asked to interview/demo on your code

***Specification***

This is the specification of your second summative assignment i.e. the grade for this assignment will go towards your final module mark. This specification will describe:

* What is expected from your code
* The marking scheme for the assignment.
* Submission details including submission date.

***Assignment Advice***

* Read the specification carefully.
* Start working on the assignment early.
* When you think you are ready to submit check the following:
  + Ensure you have **ALL** covered all the elements mentioned in the marking scheme
  + Ensure specifically that your indentation is consistent.
  + Write **COMMENTS** to explain what any methods do and how any particularly tricky code works and what it does.
  + Ensure that your name, student number and description of what your code does is written in the **READ ME** tab.
  + Ensure that you have named the submission (zip) file according to the prescribed naming convention.

***Specification***

In this assignment, you are asked to write code to produce a working animation of your choice in Processing (Java).

The aim of the assignment is for you to demonstrate your understanding of structures seen so far, so you are asked to include the following:

* The usual Processing class containing the draw(), setup(), etc.
* The use of loops (for, while, AND do while).
* Use of methods (including different return types, different parameter lists etc.).
* Use of primitive arrays.
* User input.

The complexity of the entire code is important, i.e. the more complex the code, the more marks you will achieve (See marking scheme).

***Marking Scheme***

There are three components to your overall mark:

* Structure of code
* Complexity of code
* Interview mark

***Structure of Code (100 Marks)***

* Good working animation i.e. inclusion of the usual Processing class containing the draw(), setup(), etc. (10 marks)
* Comments, indentation, naming, structure of code, readme tab etc. (5 Marks)
* Complexity of code (10 Marks)
* Use of user defined methods (many methods with different return types, parameter lists etc.) (28 marks)
* User input (7 Marks)
* Use of loops (all loops) (18 marks)
* Data structure (arrays):
  + Use of a array (many arrays) to store information i.e. a primitive array (12 marks).
  + Calculations performed/something done on the information stored (10 marks).

***Interview Mark (10 Marks)***

You will be asked to explain your work during a demo. This is to ensure that the work is your own. Please ensure you have a **NON-COMMENTED VERSION** of your project for your demo. You may be asked (for example) to explain:

* Any of the code.
* How you decided on your animation.
* How you developed your animation; where did you start first, etc?
* Anything else.

***How is the final mark calculated?***

The final mark is calculated by multiplying your project mark with your demo mark and dividing by 100. This means that each of the marks is used as a multiplier so a weakness in any of the components will negatively affect your grade.  
Example:

* Structure of code = 80/100
* Interview Mark = 10/10
* Final mark = (80 \* 10)/100 = 80%

**OR**

* Structure of code = 80/100
* Interview Mark = 5/10
* Final mark = (80 \* 5)/100 = 40%

***Note***

Specifically, the multiplier effect means that if you do not present for your interview you will receive 0 for the interview and 0% overall. This means you must be available for interview.

# *Handup of submission*

## Date

The submission is due by Thursday 7th January 2021 by 10:30am SHARP (if you are finished it earlier upload it and concentrate on your other exams!!).

Demo: Week beginning 11th of January 2021 (**time slots to be confirmed**).

## Where

The dropbox is available in Moodle.

## File naming convention

Your file should be contained in a sketchbook named according to the rule: first name + second name, e.g. Sinead Walsh sketchbook would be called SineadWalsh. You should then compress (zip) the folder that contains this sketchbook (SineadWalsh) and this is the file that you should submit.

## readme tab

You should include a readme tab in the sketchbook that you use to write the following information in the following format:

/\* Name : Student Number: Programme Name:

**Description of the animation achieved:**

Known bugs/problems:

\*/